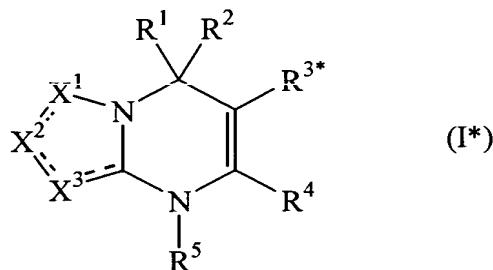


**CLAIM AMENDMENTS**

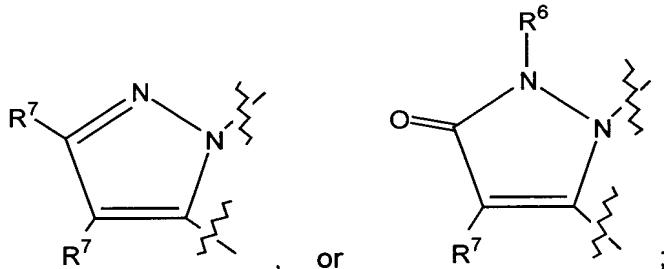
1-54. (Canceled)

55. A compound of the formula I\*



enantiomers, diasteriomers and pharmaceutically acceptable salts thereof, wherein

$X^1$ ,  $X^2$  and  $X^3$ , together with the atoms to which they are bonded, form a ring selected from:



$R^1$ ,  $R^2$ ,  $R^5$ ,  $R^6$  and  $R^7$  are independently selected from groups of the formula  $-(CH_2)_n-(Z^1)_m-$   $(CH_2)_p-Z^2$ ;

$R^4$  is alkyl or substituted alkyl;

$Z^1$  is  $-CZ^3Z^4$ ,  $-O-$ ,  $-NZ^3-$ ,  $-S-$ ,  $-SO-$ ,  $-SO_2-$ ,  $-C(O)-$ ,  $-C(O)Z^3-$ ,  $-C(O)NZ^4$ ,  $-C(S)-$ ,  $-C(=NOZ^3)-$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or  
 $Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^6Z^6*$ ,  $-C(S)NZ^5Z^6*$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO^2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl; or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

$m$  is an integer selected from 0 or 1; and

$q$  is an integer selected from 1 to 3.

56. (New) A compound of claim 20 wherein

$R^{3*}$  is heterocyclo; substituted heterocyclo;  $-C(O)NZ^{5*}Z^{6*}$ ,  $-C(O)Z^{3*}C(O)NZ^5Z^6$ ,  $-C(O)Z^{3*}-CO_2Z^5$ ,  $-C(O)Z^{3*}-(aryl)$ ,  $-C(O)Z^{3*}-(substituted aryl)$ ,  $-C(O)Z^{3*}-(heterocyclo)$ , or  $-C(O)Z^{3*}-(substituted heterocyclo)$ .

57. (New) A compound of claim 21 wherein

$R^1$  is H; and

$R^2$  is aryl, substituted aryl, heterocyclo, substituted heterocyclo, carbocyclo or substituted carbocyclo.

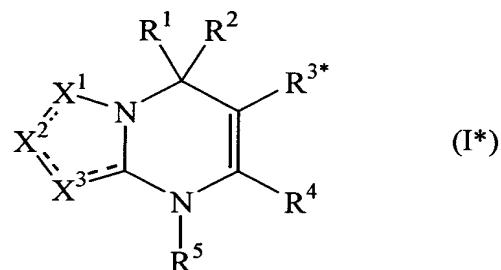
58. (New) A compound of claim 20 wherein  $R^{3*}$  is heterocyclo or substituted heterocyclo.

59. (New) A compound of claim 23 wherein

$R^1$  is H; and

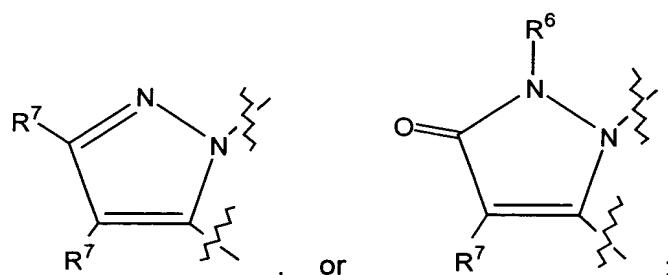
$R^2$  is aryl, substituted aryl, heterocyclo, substituted heterocyclo, carbocyclo or substituted carbocyclo.

60. (New) A method of treating atrial arrhythmias comprising administering to a patient in need thereof an effective amount of at least one compound of formula I



enantiomers, diasteriomers or pharmaceutically acceptable salts thereof, wherein

$X^1$ ,  $X^2$  and  $X^3$ , together with the atoms to which they are bonded, form a ring selected from:



$R^1$ ,  $R^2$ ,  $R^5$ ,  $R^6$  and  $R^7$  are independently selected from groups of the formula  $-(CH_2)_n-(Z^1)_m-$   $(CH_2)_p-Z^2$ ;

$R^4$  is alkyl or substituted alkyl;

$Z^1$  is  $-CZ^3Z^4$ -,  $-O$ -,  $-NZ^3$ -,  $-S$ -,  $-SO$ -,  $-SO_2$ -,  $-C(O)$ -,  $-C(O)Z^3$ -,  $-C(O)NZ^4$ ,  $-C(S)$ -,  $-C(=NOZ^3)$ -, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^{5*}Z^{6*}$ ,  $-C(S)NZ^{5*}Z^{6*}$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl;

or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

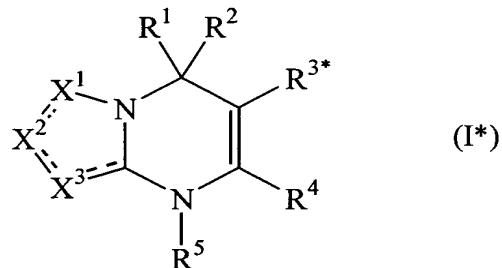
$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

m is an integer selected from 0 or 1; and  
q is an integer selected from 1 to 3.

61. (New) A method of claim 1 wherein the atrial arrhythmia is atrial fibrillation.

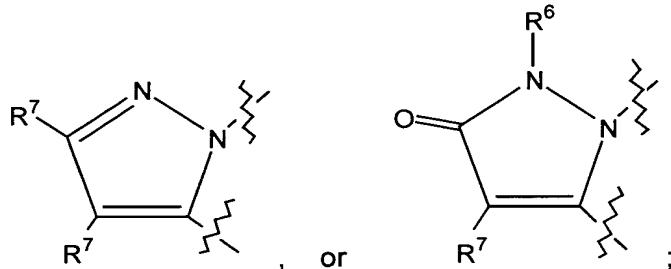
62. (New) A method of claim 1 wherein the atrial arrhythmia is atrial flutter.

63. (New) A method of controlling heart rate comprising administering to a patient in need thereof an effective amount of at least one compound of formula I



enantiomers, diasteriomers or pharmaceutically acceptable salts thereof, wherein

X<sup>1</sup>, X<sup>2</sup> and X<sup>3</sup>, together with the atoms to which they are bonded, form a ring selected from:



R<sup>1</sup>, R<sup>2</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are independently selected from groups of the formula -(CH<sub>2</sub>)<sub>n</sub>-(Z<sup>1</sup>)<sub>m</sub>-(CH<sub>2</sub>)<sub>p</sub>-Z<sup>2</sup>;

R<sup>4</sup> is alkyl or substituted alkyl;

Z<sup>1</sup> is -CZ<sup>3</sup>Z<sup>4</sup>-, -O-, -NZ<sup>3</sup>-, -S-, -SO-, -SO<sub>2</sub>-, -C(O)-, -C(O)Z<sup>3</sup>-, -C(O)NZ<sup>4</sup>, -C(S)-, -C(=NOZ<sup>3</sup>)-, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^{5*}Z^{6*}$ ,  $-C(S)NZ^{5*}Z^{6*}$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl;

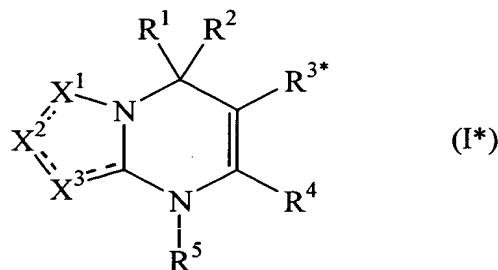
or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

$m$  is an integer selected from 0 or 1; and

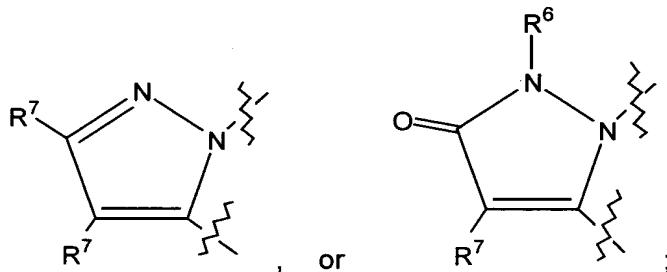
$q$  is an integer selected from 1 to 3.

64. (New) A method of treating gastrointestinal disorders comprising administering to a patient in need thereof an effective amount of at least one compound of formula I



enantiomers, diasteriomers or pharmaceutically acceptable salts thereof, wherein

$X^1$ ,  $X^2$  and  $X^3$ , together with the atoms to which they are bonded, form a ring selected from:



$R^1$ ,  $R^2$ ,  $R^5$ ,  $R^6$  and  $R^7$  are independently selected from groups of the formula  $-(CH_2)_n-(Z^1)_m-(CH_2)_p-Z^2$ ;

$R^4$  is alkyl or substituted alkyl;

$Z^1$  is  $-CZ^3Z^4$ -,  $-O-$ ,  $-NZ^3$ -,  $-S-$ ,  $-SO-$ ,  $-SO_2-$ ,  $-C(O)-$ ,  $-C(O)Z^3$ -,  $-C(O)NZ^4$ -,  $-C(S)-$ ,  $-C(=NOZ^3)-$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^6Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^{5*}Z^{6*}$ ,  $-C(S)NZ^{5*}Z^{6*}$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO^2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl; or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

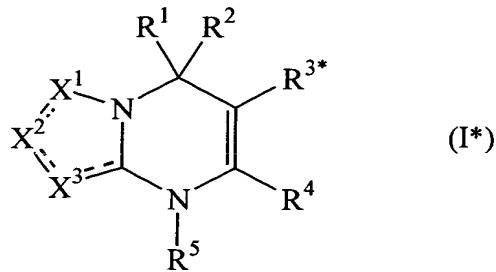
$m$  is an integer selected from 0 or 1; and

$q$  is an integer selected from 1 to 3.

65. (New) The method of claim 6 wherein the gastrointestinal disorder is reflux esophagitis.

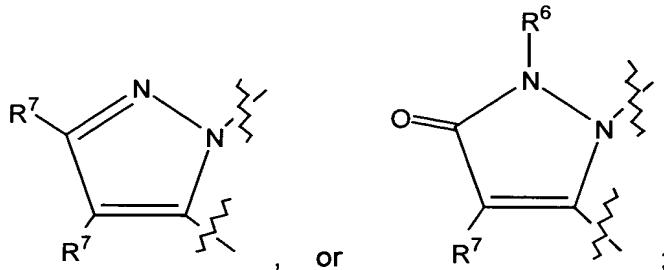
66. (New) The method of claim 6 wherein the gastrointestinal disorder is motility disorders.

67. (New) A method of treating inflammatory or immunological disease comprising administering to a patient in need thereof an effective amount of at least one compound of formula I\*



enantiomers, diasteriomers or pharmaceutically acceptable salts thereof, wherein

$X^1$ ,  $X^2$  and  $X^3$ , together with the atoms to which they are bonded, form a ring selected from:



$R^1$ ,  $R^2$ ,  $R^5$ ,  $R^6$  and  $R^7$  are independently selected from groups of the formula  $-(CH_2)_n-(Z^1)_m-(CH_2)_p-Z^2$ ;

$R^4$  is alkyl or substituted alkyl;

$Z^1$  is  $-CZ^3Z^4$ -,  $-O$ -,  $-NZ^3$ -,  $-S$ -,  $-SO$ -,  $-SO_2$ -,  $-C(O)$ -,  $-C(O)Z^3$ -,  $-C(O)NZ^4$ -,  $-C(S)$ -,  $-C(=NOZ^3)$ -, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5*Z^6*$ ,  $-C(S)NZ^5*Z^6*$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO^2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and  $Z^{6*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl;

or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

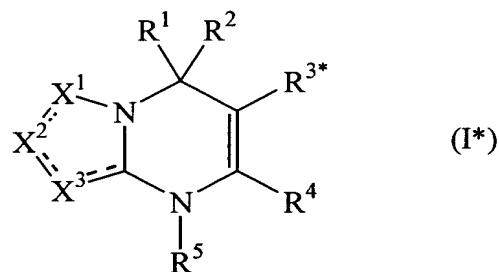
$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

$m$  is an integer selected from 0 or 1; and

$q$  is an integer selected from 1 to 3.

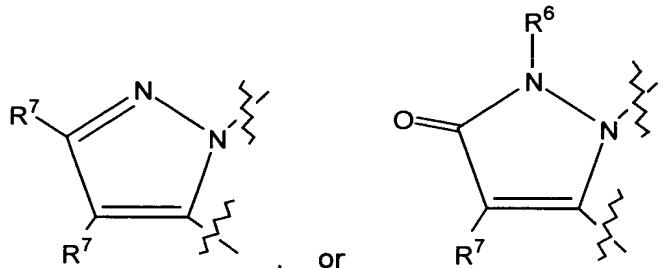
68. (New) The method of claim 67 wherein the disease is chronic obstructive pulmonary disease.

69. (New) A method of treating diabetes comprising administering to a person in need thereof an effective amount of at least one compound of formula I\*



enantiomers, diastereomers or pharmaceutically acceptable salts thereof, wherein

$X^1$ ,  $X^2$  and  $X^3$ , together with the atoms to which they are bonded, form a ring selected from:



$R^1$ ,  $R^2$ ,  $R^5$ ,  $R^6$  and  $R^7$  are independently selected from groups of the formula  $-(CH_2)_n-(Z^1)_m-(CH_2)_p-Z^2$ ;

$R^4$  is alkyl or substituted alkyl;

$Z^1$  is  $-CZ^3Z^4$ ,  $-O-$ ,  $-NZ^3-$ ,  $-S-$ ,  $-SO-$ ,  $-SO_2-$ ,  $-C(O)-$ ,  $-C(O)Z^3-$ ,  $-C(O)NZ^4$ ,  $-C(S)-$ ,  $-C(=NOZ^3)-$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^{5*}Z^{6*}$ ,  $-C(S)NZ^{5*}Z^{6*}$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO^2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

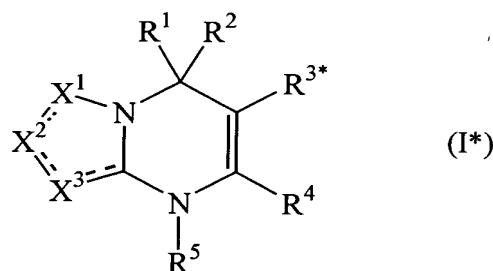
$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and  $Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl; or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

$m$  is an integer selected from 0 or 1; and

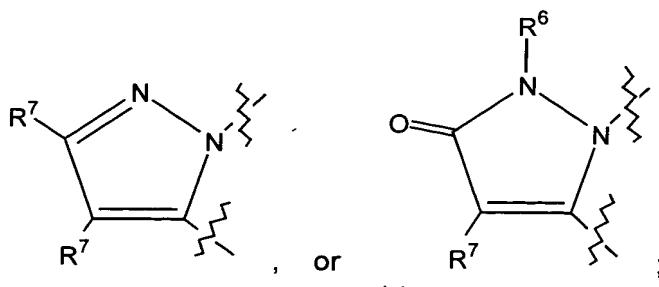
$q$  is an integer selected from 1 to 3.

70. (New) A method of treating cognitive disorders comprising administering to a patient in need thereof an effective amount of at least one compound of formula I\*



enantiomers, diastereomers or pharmaceutically acceptable salts thereof, wherein

$X^1$ ,  $X^2$  and  $X^3$ , together with the atoms to which they are bonded, form a ring selected from:



$R^1, R^2, R^5, R^6$  and  $R^7$  are independently selected from groups of the formula  $-(CH_2)_n-(Z^1)_m-(CH_2)_p-Z^2$ ;

$R^4$  is alkyl or substituted alkyl;

$Z^1$  is  $-CZ^3Z^4$ ,  $-O-$ ,  $-NZ^3$ ,  $-S-$ ,  $-SO-$ ,  $-SO_2-$ ,  $-C(O)-$ ,  $-C(O)Z^3$ ,  $-C(O)NZ^4$ ,  $-C(S)-$ ,  $-C(=NOZ^3)-$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3, Z^4, Z^5, Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3, Z^4, Z^5, Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^{5*}Z^{6*}$ ,  $-C(S)NZ^{5*}Z^{6*}$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl; or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not

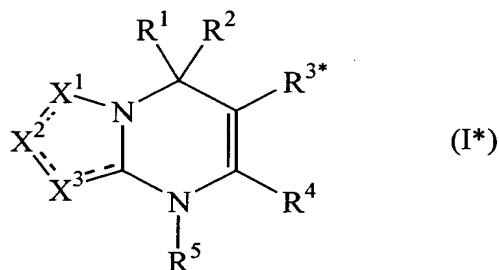
together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

n and p are independently selected from integers from 0 to 10 wherein, when m is 0, p is also 0;

m is an integer selected from 0 or 1; and

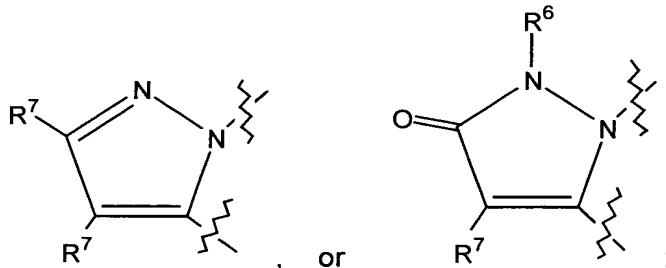
q is an integer selected from 1 to 3.

71. (New) A method of treating migraine comprising administering to a patient in need thereof an effective amount of at least one compound of the formula I\*



enantiomers, diastereomers or pharmaceutically acceptable salts thereof, wherein

X<sup>1</sup>, X<sup>2</sup> and X<sup>3</sup>, together with the atoms to which they are bonded, form a ring selected from:



R<sup>1</sup>, R<sup>2</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are independently selected from groups of the formula -(CH<sub>2</sub>)<sub>n</sub>-(Z<sup>1</sup>)<sub>m</sub>-(CH<sub>2</sub>)<sub>p</sub>-Z<sup>2</sup>;

R<sup>4</sup> is alkyl or substituted alkyl;

Z<sup>1</sup> is -CZ<sup>3</sup>Z<sup>4</sup>-, -O-, -NZ<sup>3</sup>-, -S-, -SO-, -SO<sub>2</sub>-, -C(O)-, -C(O)Z<sup>3</sup>-, -C(O)NZ<sup>4</sup>, -C(S)-, -C(=NOZ<sup>3</sup>)-, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

Z<sup>2</sup> is hydrogen; -OZ<sup>5</sup>, -OC(O)Z<sup>5</sup>, -NZ<sup>5</sup>-C(O)-Z<sup>6</sup>, -NZ<sup>5</sup>-CO<sub>2</sub>-Z<sup>6</sup>, -NZ<sup>5</sup>(C=O)-NZ<sup>6</sup>Z<sup>7</sup>, -NZ<sup>5</sup>Z<sup>6</sup>, -NO<sub>2</sub>, halo, -CN, -C(O)Z<sup>5</sup>, -CO<sub>2</sub>Z<sup>5</sup>, -C(S)Z<sup>5</sup>, -(C=NOZ<sup>5</sup>)Z<sup>6</sup>, -C(O)NZ<sup>5</sup>Z<sup>6</sup>, -C(S)NZ<sup>5</sup>Z<sup>6</sup>,

-SZ<sup>5</sup>, -SOZ<sup>5</sup>, -SO<sub>2</sub>Z<sup>5</sup>, -SO<sub>2</sub>NZ<sup>5</sup>Z<sup>6</sup>, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

Z<sup>3</sup>, Z<sup>4</sup>, Z<sup>5</sup>, Z<sup>6</sup> and Z<sup>7</sup> are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

Z<sup>3</sup>, Z<sup>4</sup>, Z<sup>5</sup>, Z<sup>6</sup> and Z<sup>7</sup> may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

R<sup>3\*</sup> is -OZ<sup>5</sup>, -OC(O)-Z<sup>5</sup>, -NZ<sup>5</sup>-C(O)<sub>2</sub>-Z<sup>6</sup>, -NZ<sup>5</sup>(C=O)-NZ<sup>6</sup>Z<sup>7</sup>, -NZ<sup>5</sup>Z<sup>6</sup>, -(C=NOZ<sup>5</sup>)Z<sup>6</sup>, -C(O)NZ<sup>5\*</sup>Z<sup>6\*</sup>, -C(S)NZ<sup>5\*</sup>Z<sup>6\*</sup>, -SZ<sup>5</sup>, -SOZ<sup>5</sup>, -SO<sup>2</sup>Z<sup>5</sup>, -SO<sub>2</sub>NZ<sup>5</sup>Z<sup>6</sup>, -C(O)Z<sup>3\*</sup>-Z<sup>2\*</sup>, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

Z<sup>2\*</sup> is other than hydrogen when Z<sup>3\*</sup> is heterocyclo;

Z<sup>3\*</sup> is heterocyclo or substituted heterocyclo;

Z<sup>5\*</sup> is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

Z<sup>6\*</sup> is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that Z<sup>6\*</sup> is not hydrogen when Z<sup>5\*</sup> is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl;

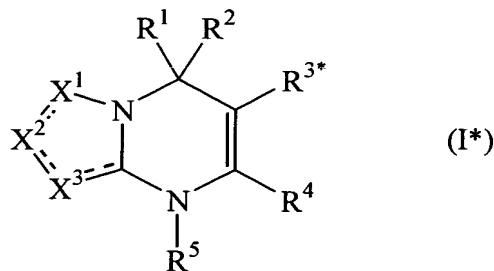
or Z<sup>5\*</sup> and Z<sup>6\*</sup> may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that Z<sup>5\*</sup> and Z<sup>6\*</sup> do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

n and p are independently selected from integers from 0 to 10 wherein, when m is 0, p is also 0;

m is an integer selected from 0 or 1; and

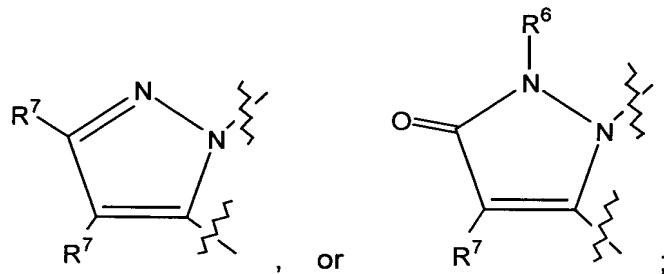
q is an integer selected from 1 to 3.

72. (New) A method of treating epilepsy comprising administering to a patient in need thereof an effective amount of at least one compound of the formula I\*



enantiomers, diasteriomers or pharmaceutically acceptable salts thereof, wherein

X<sup>1</sup>, X<sup>2</sup> and X<sup>3</sup>, together with the atoms to which they are bonded, form a ring selected from:



R<sup>1</sup>, R<sup>2</sup>, R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> are independently selected from groups of the formula -(CH<sub>2</sub>)<sub>n</sub>-(Z<sup>1</sup>)<sub>m</sub>-(CH<sub>2</sub>)<sub>p</sub>-Z<sup>2</sup>;

R<sup>4</sup> is alkyl or substituted alkyl;

Z<sup>1</sup> is -CZ<sup>3</sup>Z<sup>4</sup>-, -O-, -NZ<sup>3</sup>-, -S-, -SO-, -SO<sub>2</sub>-, -C(O)-, -C(O)Z<sup>3</sup>-, -C(O)NZ<sup>4</sup>, -C(S)-, -C(=NOZ<sup>3</sup>)-, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

Z<sup>2</sup> is hydrogen; -OZ<sup>5</sup>, -OC(O)Z<sup>5</sup>, -NZ<sup>5</sup>-C(O)-Z<sup>6</sup>, -NZ<sup>5</sup>-CO<sub>2</sub>-Z<sup>6</sup>, -NZ<sup>5</sup>(C=O)-NZ<sup>6</sup>Z<sup>7</sup>, -NZ<sup>5</sup>Z<sup>6</sup>, -NO<sub>2</sub>, halo, -CN, -C(O)Z<sup>5</sup>, -CO<sub>2</sub>Z<sup>5</sup>, -C(S)Z<sup>5</sup>, -(C=NOZ<sup>5</sup>)Z<sup>6</sup>, -C(O)NZ<sup>5</sup>Z<sup>6</sup>, -C(S)NZ<sup>5</sup>Z<sup>6</sup>, -SZ<sup>5</sup>, -SOZ<sup>5</sup>, -SO<sub>2</sub>Z<sup>5</sup>, -SO<sub>2</sub>NZ<sup>5</sup>Z<sup>6</sup>, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

Z<sup>3</sup>, Z<sup>4</sup>, Z<sup>5</sup>, Z<sup>6</sup> and Z<sup>7</sup> are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^{5*}Z^{6*}$ ,  $-C(S)NZ^{5*}Z^{6*}$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO^2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

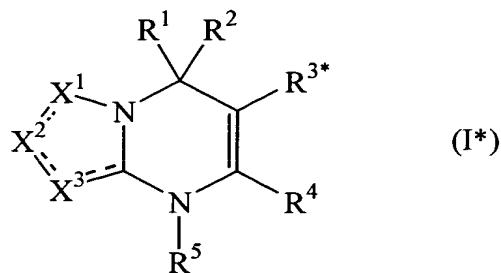
$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl; or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

$m$  is an integer selected from 0 or 1; and

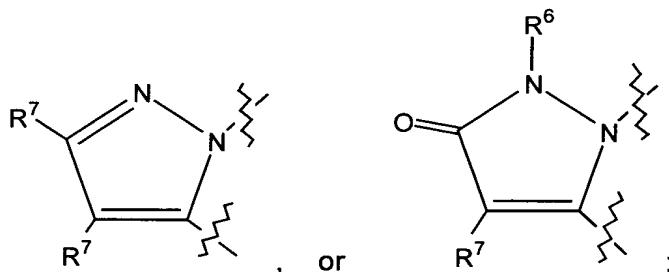
$q$  is an integer selected from 1 to 3.

73. (New) A method of treating  $I_{kur}$ -associated conditions comprising administering to a patient in need thereof an effective amount of at least one compound of the formula  $I^*$



enantiomers, diasteriomers or pharmaceutically acceptable salts thereof, wherein

$X^1$ ,  $X^2$  and  $X^3$ , together with the atoms to which they are bonded, form a ring selected from:



$R^1$ ,  $R^2$ ,  $R^5$ ,  $R^6$  and  $R^7$  are independently selected from groups of the formula  $-(CH_2)_n-(Z^1)_m-(CH_2)_p-Z^2$ ;

$R^4$  is alkyl or substituted alkyl;

$Z^1$  is  $-CZ^3Z^4$ -,  $-O-$ ,  $-NZ^3-$ ,  $-S-$ ,  $-SO-$ ,  $-SO_2-$ ,  $-C(O)-$ ,  $-C(O)Z^3-$ ,  $-C(O)NZ^4$ -,  $-C(S)-$ ,  $-C(=NOZ^3)-$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^2$  is hydrogen;  $-OZ^5$ ,  $-OC(O)Z^5$ ,  $-NZ^5-C(O)-Z^6$ ,  $-NZ^5-CO_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-NO_2$ , halo,  $-CN$ ,  $-C(O)Z^5$ ,  $-CO_2Z^5$ ,  $-C(S)Z^5$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6$ ,  $-C(S)NZ^5Z^6$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO_2Z^5$ ,  $-SO_2NZ^5Z^6$ , alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo;

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  are independently hydrogen, halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; or

$Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $Z^6$  and  $Z^7$  may, in one or more pairs of two, together with the atoms to which they are bonded, form a carbocyclic, substituted carbocyclic, heterocyclic or substituted heterocyclic group;

$R^{3*}$  is  $-OZ^5$ ,  $-OC(O)-Z^5$ ,  $-NZ^5-C(O)_2-Z^6$ ,  $-NZ^5(C=O)-NZ^6Z^7$ ,  $-NZ^5Z^6$ ,  $-(C=NOZ^5)Z^6$ ,  $-C(O)NZ^5Z^6*$ ,  $-C(S)NZ^{5*}Z^{6*}$ ,  $-SZ^5$ ,  $-SOZ^5$ ,  $-SO^2Z^5$ ,  $-SO_2NZ^5Z^6$ ,  $-C(O)Z^{3*}-Z^{2*}$ , halo, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo or substituted heterocyclo;

$Z^{2*}$  is other than hydrogen when  $Z^{3*}$  is heterocyclo;

$Z^{3*}$  is heterocyclo or substituted heterocyclo;

$Z^{5*}$  is substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo; and

$Z^{6*}$  is hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, carbocyclo, substituted carbocyclo, aryl, substituted aryl, heterocyclo, or substituted heterocyclo, provided that  $Z^{6*}$  is not hydrogen when  $Z^{5*}$  is unsubstituted cycloalkyl, unsubstituted aryl, or unsubstituted benzyl; or  $Z^{5*}$  and  $Z^{6*}$  may together with the nitrogen atom to which they are bonded form a heterocyclic group or substituted heterocyclic group, provided that  $Z^{5*}$  and  $Z^{6*}$  do not together form unsubstituted piperidinyl, unsubstituted pyrrolidinyl, or unsubstituted morpholinyl;

$n$  and  $p$  are independently selected from integers from 0 to 10 wherein, when  $m$  is 0,  $p$  is also 0;

$m$  is an integer selected from 0 or 1; and

$q$  is an integer selected from 1 to 3.